

Travis Air Force Base

Fairfield, California

Region 9

CA5570024575

Site Exposure Potential

Travis Air Force Base (AFB) occupies approximately 2,000 hectares in Solano County, 5 km east of Fairfield, California (Figure 1). The base was established in 1943 for the transport and servicing of tactical aircraft, becoming the largest West Coast port facility during the Korean and Viet Nam conflicts. Currently, it provides global strategic airlift support and is one of the largest operating bases for the Military Airlift Command (Weston 1990).

Waste materials have been generated on the base as part of aircraft and vehicle maintenance and repair, fuel handling, fire protection training, and through use of pesticides and herbicides. Wastes included oil, contaminated fuels, hydraulic

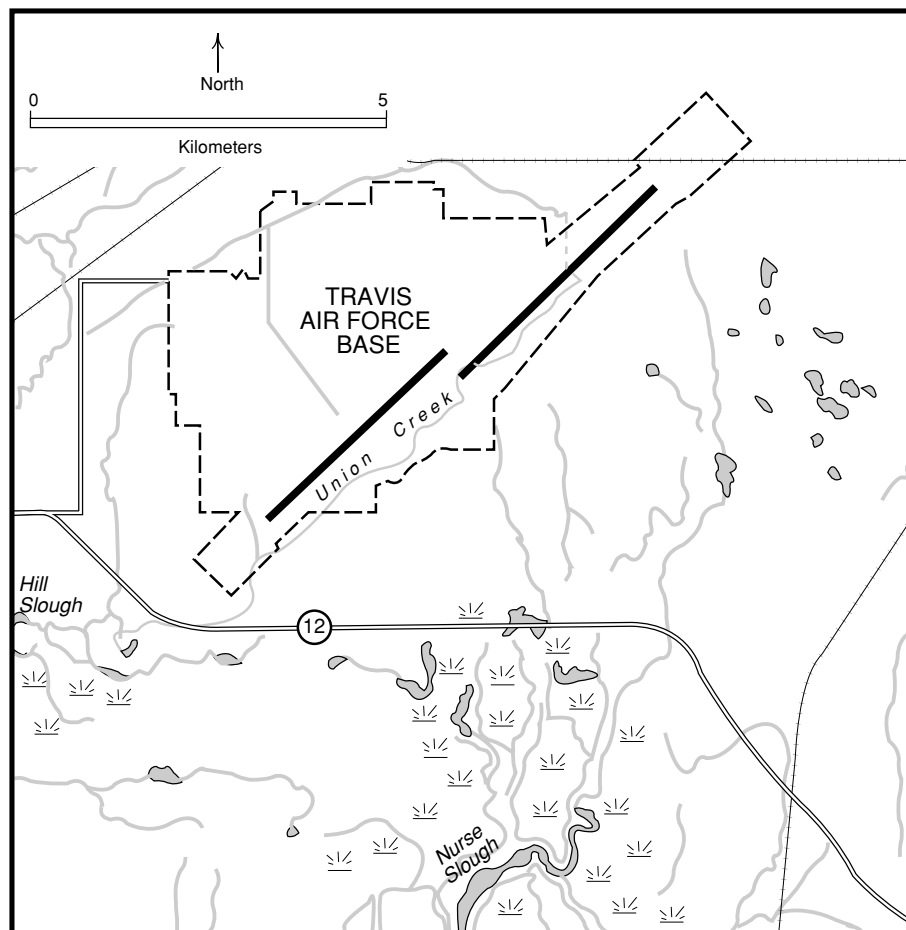


Figure 1.
Travis Air Force
Base, Fairfield,
California.

Travis Air Force Base

Site-Related Contamination, *cont.*

sediment on the base. In addition, barium occurred in extremely high concentrations in sediment.

Trichloroethylene and associated volatile organic compounds were measured in high concentrations in groundwater, surface water, and soils. Total petroleum hydrocarbon (TPH) concentrations were extremely high in samples from surface water, groundwater, soil, and sediment.

Table 1.
Maximum concentrations of contaminants in surface water, groundwater, soil, and sediment at the site, with applicable screening levels.

	Water			Soil		Sediment	
	Surface Water µg/l	Ground-water µg/l	Chronic AWQC ¹ µg/l	Soil mg/kg	Average U.S. Soil ² mg/kg	Sediment mg/kg	ERL ³ mg/kg
INORGANIC SUBSTANCES							
arsenic	20	10	190	32	5	26.4	33
barium	680	2,500	NA	820	430	151,000	NA
cadmium	230	110	1.1 ⁺	13	0.06	124	5
chromium	530	260	11	60	100	1130	80
copper	260	60	12 ⁺	160	30	1240	70
lead	4,600	360	3.2 ⁺	850	10	6360	35
mercury	10	940	0.012	25	0.03	5.5	0.15
nickel	130	4,100	160 ⁺	46	40	5710	30
silver	80	70	0.12	120	0.05	24.0	1.0
thallium	780	170	40 [*]	ND	0.1	216	NA
zinc	14,000	310	110 ⁺	4400	50	23,500	120
ORGANIC COMPOUNDS							
TPH ⁴	39600000	10500000	NA	15,300	NA	74,300	NA
TCE	18	19,000	NA	290	NA	0.12	NA
t-1,2-dichloro-ethene	442	1,300	NA	ND	NA	ND	NA
1: Ambient water quality criteria for the protection of aquatic life, freshwater chronic criteria presented (EPA 1986). 2: Lindsay (1979). 3: Effective range-low; the concentration representing the lowest 10 percentile value for the data in which effects were observed or predicted in studies compiled by Long and Morgan (1990). 4: Total Petroleum Hydrocarbons. + Hardness-dependent criteria: 100 mg/l CaCO ₃ used. * Insufficient data to develop criteria. Value presented is the Lowest Observed Effects Level (LOEL). ND: Not detected at method detection limit; detection limit not reported. NA: Screening level not available.							

NOAA Trust Habitats and Species

NOAA trust habitats in the vicinity of Travis AFB are Suisun Marsh, its associated waterways, and Suisun Bay. Several creeks intersect the base, including Union Creek, Suisun Valley Creek, Green Valley Creek, and Ledge wood Creek. Union Creek is a major drainage pathway to Suisun Marsh, an important wetlands system in San Francisco Bay that provides

<p data-bbox="256 380 446 525">NOAA Trust Habitats and Species, <i>cont.</i></p> <p data-bbox="232 596 440 877">Table 2. Anadromous and marine species and habitat use in Suisun Marsh and associated waterways, and Suisun Bay in the vicinity of the site.</p>	<p data-bbox="483 134 826 174">Travis Air Force Base</p> <p data-bbox="508 380 1425 556">essential nursery habitat for several anadromous and marine species (Table 2; Rugg personal communication 1990). The Hill Slough Wildlife Area, adjacent to the base, is managed by the State of California as a wetland and provides public access for fishing and recreation.</p> <div data-bbox="495 600 1417 1173"><p data-bbox="745 867 1151 907">Table available in hardcopy</p></div> <p data-bbox="508 1239 1425 1879">Suisun Bay, a transition zone between the saltwater ecosystem of San Francisco Bay and the freshwater ecosystems of the Sacramento and San Joaquin rivers, forms a migration corridor and nursery area for anadromous fish which spawn in the rivers. Striped bass migrate through Suisun Bay and spawn in the Sacramento River delta region. Chinook salmon, steelhead trout, white and green sturgeon, and American shad spawn in the upper reaches and tributaries of the Sacramento and San Joaquin rivers, with the largest populations found in the mainstem of the Sacramento River. Steelhead trout also spawn in Suisun Valley Creek and in Green Valley Creek. Extensive recreational fishing for striped bass, steelhead, salmon, and shad occurs in Suisun Bay and Suisun Marsh. Although no commercial fishery exists in Suisun Bay, commercial fishing of bay shrimp for bait may move into the lower reaches of Suisun Bay during periods of abnormally high salinity (Hergeshell personal communication 1990; Rugg personal communication 1990).</p>
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<p>References</p>	<p>Travis Air Force Base</p> <p>Hergeshell, P., Fisheries Biologist, California Department of Fish and Game, Santa Rosa, California, personal communication, July 12, 1990.</p> <p>Lindsay, W.L. 1979. <u>Chemical Equilibria in Soils</u>. New York: John Wiley & Sons. 449pp.</p> <p>Long, E.R., and L.G. Morgan. 1990. The potential for biological effects of sediment-sorbed contaminants tested in the National status and Trends Program. Seattle: Coastal and Estuarine Assessment Branch, NOAA. NOAA Technical Memorandum NOS OMA-52. 175 pp.+ Appendices.</p> <p>Roy F. Weston. 1990. Installation Restoration Program. Stage 2. Travis Air Force Base, California. Draft Technical Report. Volume 1. Scott Air Force Base, Illinois: Headquarters Military Command, Command Civil Engineer, and U.S. Air Force, Human Systems Division, IRP Program Office, Brooks Air Force Base, Texas. 1,500 pp.</p> <p>Rugg, M., Water Quality Biologist, California Department of Fish and Game, Yountville, California, personal communication, August 7, 1990.</p> <p>U.S. Environmental Protection Agency. 1986. Quality Criteria for Water. Washington, D.C.: Office of Water Regulations and Standards, Criteria and Standards Division. EPA 440/5-87-003.</p>
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